B. 5. Wetlands

Wetlands, located at the land/water interface, are an integral ecological part of the estuarine system and are critical for fish production. The value of such habitats is direct when occupied by estuarine organisms and indirect as they help maintain water quality and contribute nutrients and detritus basic to the biological productivity. Wetlands also play an important role in modifying hydrologic events. The Albemarle-Pamlico Estuarine System is surrounded by many wetland types, including vast marshes composed of black needlerush (*Juncus roemerianus*), smooth cordgrass (*Spartina alterniflora*), and saltmeadow hay (*S. patens*). In addition, large areas of riverine bottomland hardwoods are found along the major rivers, especially the Chowan, Roanoke, Tar and Neuse rivers. Another important wetland type is nontidal freshwater swamps, especially in the Albemarle Sound area. Each wetland type contributes to maintaining the overall fisheries production of the estuarine system.

C. STATUS OF MAJOR SPECIES

Well over 100 species of finfish, crustaceans, and shellfish contribute to North Carolina's commercial and recreational fisheries each year. Both commercial and sport fishermen in the Albemarle-Pamlico estuarine areas generally seek the same species, such as striped bass, white perch, croaker, spotted seatrout, flounder, blue crabs, shrimp, and hard clams. A few species are of importance almost exclusively to commercial fishermen, including river herring, menhaden, harvestfish, and eels. Similarly, anglers have a predominant interest in a few estuarine species, including tarpon and red drum.

Commercial landings data are shown for 14 leading species for the Albemarle-Pamlico Estuarine System in Table IV-5. Data are from the DMF/NMFS cooperative statistics program. Comparable recreational data do not exist, as previously discussed. Each species is briefly discussed below.

C. 1. River Herring

Blueback herring and alewife (*Alosa aestivalis and A. pseudoharengus*), collectively known as river herring, ascend North Carolina's coastal rivers each spring to spawn in freshwater creeks and swamps. Millions of individual fish, principally in the Chowan River, are harvested for processing to yield salted herring, specialty products, and roe (Wynns 1967). River herring are also highly valued as bait for striped bass sport fishing, for blue crabs in the south Atlantic area, and for crayfish in Louisiana.

Domestic landings declined sharply during the 1970's as foreign fleets made large catches in the ocean, exceeding previous domestic landings. Ocean landings essentially ended when foreign fishing was controlled by enactment of the Federal Fisheries Conservation and Management Act of 1976 (FCMA). However, landings remained depressed into the early 1980's. The fisheries in Virginia and Maryland declined along with North Carolina's and have remained severely depressed. Some recovery seemed to occur in North Carolina in 1985, but landings have declined since then to the lowest on record. Area fishermen feel that weather conditions and pollution from a pulp mill in Virginia which discharges into Chowan River just upstream from the North Carolina/Virginia border have combined to hinder fishing during 1986-88. The fishermen feel that adequate fish were available but were not entering the nets due to those condition (Winslow 1989). Examination of catch effort data (Winslow 1989; Winslow et al. 1985; Winslow et al. 1983; Johnson et al. 1981) indicates that pound net effort in the Chowan River during 1987 and 1988 was among the highest